

I claim:

1. A tumor necrosis-factor inducible promoter, consisting of an isolated nucleic acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19, SEQ ID NO:20, SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:27, SEQ ID NO:28, and SEQ ID NO:29, SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36.

2. An expression vector comprising one or more of the tumor necrosis-factor inducible promoters of claim 1.

3. The expression vector of claim 2 further comprising a polylinker adjacent to the 3' end of the one or more tumor necrosis-factor inducible promoters.

4. The expression vector of claim 2 comprising two or more of the tumor necrosis-factor inducible promoters.

5. The expression vector of claim 4 further comprising a polylinker adjacent to the 3' end of each of the two or more tumor necrosis-factor inducible promoters.

6. The expression vector of claim 2 further comprising a reporter gene operatively linked to the one or more of the tumor necrosis-factor inducible promoters.

7. The expression vector of claim 4 further comprising a reporter gene operatively linked to the two or more of the tumor necrosis-factor inducible promoters.

8. A recombinant host cell transfected with one or more of the expression vector of claim 2.

9. A recombinant host cell transfected with one or more of the expression vector of claim 3.

10. A recombinant host cell transfected with one or more of the expression vector of claim 4.

11. A recombinant host cell transfected with one or more of the expression vector of claim 5.

12. A recombinant host cell transfected with one or more of the expression vector of claim 6.

13. A recombinant host cell transfected with one or more of the expression vector of claim 7.

5 14. A method for identifying candidate compounds for treating or preventing autoimmune disorders or cancer, comprising

a) providing a recombinant host cell according to claim 12;

b) contacting the recombinant host cell with tumor necrosis factor alone or together with one or more test compound under conditions suitable for expression of the reporter gene;

c) determining reporter gene expression levels; and

d) identifying those test compounds that modify TNF-induced reporter gene expression, wherein such modification identifies a test compound as a candidate for the treatment or prevention of autoimmunity or cancer.

15 15. A method for identifying candidate compounds for treating or preventing autoimmune disorders or cancer, comprising

a) providing a recombinant host cell according to claim 13;

b) contacting the recombinant host cell with tumor necrosis factor alone or together with one or more test compound under conditions suitable for expression of the reporter gene;

c) determining reporter gene expression levels; and

d) identifying those test compounds that modify TNF-induced reporter gene expression, wherein such modification identifies a test compound as a candidate for the treatment or prevention of autoimmunity or cancer.

25 16. The expression vector of claim 2 wherein the one or more tumor necrosis-factor inducible promoter comprises SEQ ID NO:6 and SEQ ID NO:7.

17. The expression vector of claim 6 wherein the one or more tumor necrosis-factor inducible promoter comprises SEQ ID NO:6 and SEQ ID NO:7.

30 18. The recombinant host cell of claim 8 wherein the one or more tumor necrosis-factor inducible promoter consist of SEQ ID NO:6 and SEQ ID NO:7.

19. The recombinant host cell of claim 12 wherein the one or more tumor necrosis-factor inducible promoter consist of SEQ ID NO:6 and SEQ ID NO:7.

20. The method of claim 15 wherein the one or more tumor necrosis-factor inducible promoter consist of SEQ ID NO:6 and SEQ ID NO:7.

5 21. A method for identifying candidate tumor necrosis factor inducible promoters, comprising:

a) aligning a test sequence consisting of a nucleic acid sequence with a comparison sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19, SEQ ID NO:20, SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:27, SEQ ID NO:28, and SEQ ID NO:29, SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36, using a gap opening penalty of 50 and a gap extension penalty of 3 to define a test alignment;

b) shuffling the nucleic acid sequence of the test sequence at least one hundred times, while maintaining its length and composition, to produce a series of randomized sequences;

c) aligning the randomized sequences with the comparison sequence using a gap opening penalty of 50 and a gap extension penalty of 3, to produce a series of randomized alignments;

d) determining an average alignment quality of the randomized alignments, wherein the average alignment quality of the randomized alignments represents an alignment expected by chance;

e) comparing the test alignment with the average alignment quality of the randomized alignments; and

f) identifying a test alignment with a probability value of less than 0.05 that the alignment is obtained by chance as a candidate tumor necrosis factor inducible promoter.

22. A method for identifying candidate compounds for treating or preventing autoimmune disorders or cancer, comprising

a) providing a recombinant host cell according to claim 12;
b) contacting the recombinant host cell with one or more test compound
under conditions suitable for expression of the reporter gene;

c) determining reporter gene expression levels; and

5 d) identifying those test compounds that modify reporter gene expression,
wherein such modification identifies a test compound as a candidate for the treatment or
prevention of autoimmunity or cancer.

23. A method for identifying candidate compounds for treating or preventing
autoimmune disorders or cancer, comprising

10 a) providing a recombinant host cell according to claim 13;

b) contacting the recombinant host cell with one or more test compound
under conditions suitable for expression of the reporter gene;

c) determining reporter gene expression levels; and

15 d) identifying those test compounds that modify reporter gene expression,
wherein such modification identifies a test compound as a candidate for the treatment or
prevention of autoimmunity or cancer.